

CLAIMS

What is claimed is:

- 1) A venting liner for a cap and container assembly comprising:
 - a liner, in a form adapted to be positioned over a container opening, being defined by at least three layers, said layers including at least one perforation extending vertically through said first, intermediate and third layers to provide controlled gas flow through said liner at a desired pressure level;
 - said first layer having a first surface facing away from said container opening and a second surface facing toward the container opening,
 - said intermediate layer consisting of a resilient foam material positioned between said first layer and said third layer and responsive to a pressure in said container such that, in a pressurized state, said intermediate is adapted to expand and compress facilitating the passage and prevention of gas flow through said perforations depending on said pressure conditions;
 - said third layer having a first surface adjacent to said intermediate layer and a second surface adjacent to the container opening;
 - wherein said liner controls the pressure level in said container such that when the pressure inside of said container is at a selected pressure level, said venting liner allows gas flow through the perforation, thereby releasing gas flow from said container, and when the pressure inside of said container is at a desired level, said venting liner seals the container, thereby resisting gas flow from said container.
2. The venting cap liner in accordance with claim 1 wherein the liner has a thickness between .016" and .056".
3. The venting cap liner in accordance with claim 1 wherein the liner has a density between 4.0 and 40.0 lbs/ft³.
4. The venting cap liner in accordance with claim 1 wherein the perforation has a diameter between .001" and .035".

5. The venting cap liner in accordance with claim 1 wherein the second layer has a thickness between .010" and .050".
6. The venting cap liner in accordance with claim 1 wherein the second layer is formed from an impermeable material.
7. The venting cap liner in accordance with claim 1, said first surface having at least one channel extending from one edge of the first layer to another edge of the first layer.
8. The venting cap liner in accordance with claim 7 wherein the channel has a depth of between .003" and .020".
9. The venting cap liner in accordance with claim 7 wherein at least one channel intersects a perforation.
10. The venting cap liner in accordance with claim 7, wherein said first layer further includes a plurality of channels extending across the top layer from one edge to another.
11. A venting cap liner for use in a pressurized cap and container arrangement, said cap liner comprising:
 - a multi-layer sandwich structure including a first layer, a generally flat resilient intermediate layer, and a third layer, said layers including at least one perforation extending through said first, second and third layers to enable gas flow therethrough,
 - said first layer having a first surface opposite a second surface, wherein said first surface is adjacent to said cap and said second surface is adjacent to said second layer,
 - said first surface having at least one channel extending from one edge of the first layer to another edge of the first layer,
 - said intermediate resilient layer being positioned between said first layer and said third layer, said second resilient layer having a generally flat first surface adjacent to the first layer and a generally flat second surface adjacent to the third layer, wherein said second layer is responsive to a gas pressure level in said container such that, at a first

selected pressure level, said perforation extending through said second layer opens to allow gas to flow through said perforation and, at a second selected pressure level, said second layer expands to close said at least one perforation thereby resisting gas flow therethrough,

said third layer having a first surface adjacent to said second layer and a second surface adjacent to the mouth of said container.

12. A venting cap liner for use in a cap and container arrangement, said cap liner comprising:

a structure having a first layer,

an intermediate layer positioned adjacent to the mouth of said container, and

at least one perforation extending through said first layer and said second layer,

wherein at a selected pressure, gas flows through said perforation in said structure and at pressure below said selected pressure, said structure resists gas flow therethrough.

13. The venting liner in accordance with claim 12 wherein the first layer traversed by at least one channel.

14. The venting liner in accordance with claim 12 wherein the intermediate layer is formed from an impermeable material.

15. The venting liner in accordance with claim 12 wherein the intermediate layer is pressure responsive such that said perforation opens at a selected internal pressure level and said perforation closes at a selected internal pressure level.